



## **Psychometric properties of Persian Version of Belongingness Orientation Scale**

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It seems that human-being has an intrinsic need for belongingness. Belongingness has multiple strong effects on emotional patterns, cognitive processes, and optimal psychological functioning. This study aimed to investigate the psychometric properties of the Belongingness Orientation scale in Iranian students. In a descriptive-correlational study, 300 students (60.3% female; age mean=20.54±1.70) from Birjand University were selected by multistage random sampling method. Participants completed Belongingness Orientation Scale (Lavigne et al., 2011) and Interpersonal Orientation Scale (Hill, 1987). Data were analyzed by confirmatory factor analysis, Pearson's correlation coefficient, and MANOVA using SPSS.25 and Amos.24 software. Confirmatory factor analysis confirmed the two-factor structure. Factor loading varied from 0.65 to 0.87. The results showed that there are significant relationships between the dimensions of belongingness orientation and interpersonal orientation. Correlation coefficients varied from 0.37 to 0.51. Cronbach's alpha coefficients are 0.79 for two subscales. Split-half coefficients are 0.70 for growth orientation and 0.74 for deficit reduction orientation. It seems that the Belongingness Orientation scale has good construct validity and reliability in students. This scale can be used as a precise instrument in this regard.

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## **Introduction**

Belongingness has multiple strong effects on emotional patterns, cognitive processes and optimal psychological functioning and its low levels are associated with high levels of mental and physical illness (Deci & Ryan, 2000). Baumeister and Leary (1995) define the need to belong as a “need for frequent, non-aversive interactions within ongoing relational bonds”. A sense of belonging is felt when a person feels that there is a significant mutual care between him and the people close to him. Therefore, the mere presence of others does not meet the need to belong, but the main issue is the quality and meaning of interaction according to individuals (Sheldon, Elliot, Kim & Kasser, 2001). Researches shows that there is a positive relationship between belongingness and positive emotions (Landry et al., 2016), vitality (León & Núñez, 2013), presence and search of meaning (Blake, 2020), life satisfaction (Landry et al., 2016), self-esteem (León & Núñez, 2013), interpersonal orientation dimensions (Leary, Kelly, Cottrell & Schreindorfer, 2013) and friendship quality (Cox & Ullrich-French, 2010). On the other hand, it seems that when social relationships are disturbed, the perception of loneliness has a decisive effect on health (Cacioppo & Cacioppo, 2014). Studies indicate that there is a positive relationship between the lack of belongingness and negative emotions (Tajrishi, Besharat, Pourbohloul & Larijani, 2011; Landry et al., 2016), mental illness and depression (Landry et al., 2016; Kuo and Yang, 2017), and perceived social support (Rashid et al., 2016).

In addition to belongingness approach (Baumeister & Leary, 1995), belongingness has been explained in detail in the Self-determination theory (SDT; Deci & Ryan, 1985; Ryan and Deci, 2020). According to SDT, humans are inherently motivated to perform activities that satisfy their basic needs, including autonomy, competence and relatedness, leading to enhancing their well-being (Ryan & Deci, 2019; Alamer, 2021). SDT posits that people have a basic universal psychological need to feel connected, that must be satisfied to function optimally (Deci & Ryan, 2014).

Lavigne, Vallerand and Crevier-Braud (2011) proposed Belongingness Orientation Model (BOM) based on four propositions. The first posits that the belongingness need is innate in human-being and thus universal (Baumeister & Leary,

1995; Deci and Ryan, 2000). A second proposition is that two distinct orientations exist as to how the need for belongingness guides one’s interaction with the social world. Lavigne et al., (2011) postulate that a growth orientation and a deficit-reduction orientation come to evolve from the need for belongingness. “A growth orientation leads one to connect with others while reflecting a genuine interest toward them. Relationships with others are thought to be important because they are enriching and provide the basis for an autonomous personal and interpersonal development”. Conversely, a deficit-reduction orientation “leads to desire the closeness of others to fill a social void. This belongingness orientation is directed toward a social deficit reduction because of a constant craving for social acceptance”. Third, the two orientations are present in all people, but in different degrees. The final proposition from the BOM posits that “people’s belongingness orientations not only lead to different social experiences but also influence how they are actually perceived and treated by others. The growth need orientation is hypothesized to lead to adaptive outcomes and deficit reduction need orientation to less adaptive and even at times to maladaptive consequences” (Lavigne et al., 2011). Lavigne et al., (2011) developed Belongingness Orientation Scale (BOS), which was first composed of 14 items reflecting the definition of the growth and deficit-reduction orientations. The analysis of principal components and the removal of four items resulted in a two-factor structure that explained 59.27% of the variance with the following five items of each factor. They found a significant relationship between growth and deficit-reduction orientations and need for relatedness, competence, autonomy, affiliative tendency, positive stimulation, emotional support, social comparison, self-disclosure and need to belong. Studying the internal consistency also showed the correlation coefficients from 0.22 to 0.39 (in three sample groups) between the two orientations. Cronbach’s alpha coefficients for items also ranged from 0.77 to 0.83. Three separate studies showed that Cronbach’s alpha coefficients were 0.79, 0.81 and 0.79 for growth orientation and 0.81, 0.81 and 0.88 for deficit reduction orientation.

In other studies, BOS was also used and showed a good validity. Seehausen et al., (2013) in a study

found a positive and significant relationship between the two orientations. Sinclair (2015) applied growth orientation from BOS and reported Cronbach's alpha of 0.91. He also found a positive relationship between growth orientation and virtual and real social interactions and well-being, while there was a negative and significant relationship between growth orientation and depression and feelings of loneliness. Spehar, Forest and Stenseng (2016) studied the relationship between belongingness and demographic indicators and found no significant relationship between gender, age and educational level. However, Adamczyk (2018) found a significant gender difference in the need for belongingness, in which women had a higher level of belongingness.

An overview of the research background shows that the factor validity of BOS (Lavigne et al., 2011) has not been studied in another research. In addition, this scale has not been used by Iranian researchers and there is no information about the scale's validity in the Iranian sample. Accordingly, it seems that conducting a study on a sample of Iranian students and simultaneously applying psychometric indices (factorial and convergent validity and reliability) can lead to a more accurate assessment of the scale, in addition to providing a valid instrument for the use of Iranian researchers. Therefore, this study aimed to examine the construct validity of BOS in Iranian.

## Methodology

This was a correlative and a test validation study. The statistical population of the study consisted of all undergraduate students at the University of Birjand. At least 300 students are required to study based on confirmatory factor analysis (Yong & Pearce, 2013); therefore 300 students (181 females and 119 males) with a mean age of 20.54 years (SD = 1.70 years) were selected by multistage random sampling method, from which 88% were single. Data were collected by the following scales:

*Belongingness Orientation Scale (BOS):* This Scale includes two subscales designed to measure two distinct goal orientations (growth and deficit-

reduction). Respondents were asked to rate how much they agree with ten statements of "My relationships are important to me because..." using a scale from 1, "strongly disagree", to 6, "strongly agree" (Lavigne et al., 2011). The validity was reviewed and confirmed in the Lavigne, et al (2011) study by exploratory and confirmatory factor analysis and convergent and divergent validity. Reliability of both subscales was good, with coefficient alphas for the Growth-Oriented subscale ranged between 0.77 and 0.83; alphas for the Deficit-Reduction subscale ranged between .80 and .83.

To prepare the Persian version of BOS, it was translated into Persian by a psychologist fluent in English after obtaining permission from the developers. Following that, the scale translated into English by a faculty member in psychology using the back-translation technique. In the end, both forms were compared and adapted by a psychologist who is a faculty member. The Persian version is provided in the appendix.

*Interpersonal Orientation Scale (IOS):* This scale has 26 items and contains five-point scales ranging from "not at all true" to "completely true." This measure has been validated in the literature and has been shown to yield four dimensions of affiliation motivation (Hill, 1987). Alpha coefficients for the four dimensions of affiliation motivation were all acceptable (social comparison= 0.70; emotional support= 0.79; attention= 0.82; positive stimulation= 0.82). Decker, Calo and Weer (2012) also reported Cronbach's alpha ranging from 0.71 to 0.82 for interpersonal orientation. Since this instrument has not been used previously in the Iranian sample, the linguistic and cultural adaptation steps were implemented for this scale simultaneously with Belongingness Orientation Scale (BOS). Cronbach's alpha coefficients were obtained ranging from 0.72 to 0.78 for this scale in the present study.

It is noteworthy that participation in the research was voluntary and the questionnaires were filled anonymously. All participants were informed about the aim of the study and about participation

being voluntary. Informed consent was obtained from all participants. In addition, the participants were ensured of the confidentiality of the collected data.

Confirmatory factor analysis was performed with Amos.24 and MANOVA and Pearson correlation coefficient were used to examine the convergent and criterion validity with SPSS.25.

**Result**

The confirmatory factor analysis with the maximum likelihood method were used to confirm

factor structures. The results showed that all factor loadings are greater than 0.60 and are significant ( $p < 0.01$ ). Results provided support for the model,  $\chi^2 = 76.73$ ,  $df = 34$ ,  $p < 0.05$ , normed chi-square index (NCI) = 2.26, root mean square error of approximation (RMSEA) = .06 [0.04, 0.08], normed fit index (NFI) = 0.95, comparative fit index (CFI) = 0.97, and goodness-of-fit index (GFI) = 0.95. The standardized factor loadings for the two-factor structure are presented in Table 1.

**Table 1. Results from the Confirmatory Factor Analysis of the Belongingness Orientations Scale (BOS)**

My interpersonal relationships are important to me because ...	Factor 1 (growth orientation)	Factor 2 (deficit reduction orientation)	M	SD
... I find it exciting to discuss with people on numerous topics.	0.82		3.31	1.17
... I have a sincere interest in others.	0.84		3.26	1.06
... I consider that the people I meet are fascinating.	0.74		3.09	1.09
... They allow me to discover a lot about others.	0.81		3.40	1.12
... They allow me to learn about myself.	0.65		3.43	1.18
... It appeases me to feel accepted		0.67	3.30	1.21
... I need to feel accepted		0.65	3.01	1.07
... I don't want to be alone		0.87	3.21	1.14
... It gives me a frame of reference for the important decisions I have		0.65	3.28	1.09
... They fill a void in my life.		0.73	3.01	1.15

Notes: M=Mean; SD= Standard Deviation

The results of the convergent validity of BOS by correlation calculation with the dimensions of interpersonal orientation are presented in Table 2.

**Table 2. Correlations between Growth and Deficit-Reduction Orientations and Interpersonal Orientation**

Variables	Growth orientation	Deficit-reduction orientation	p value of correlation difference
IOS's emotional support	0.47**	0.40**	0.29
IOS's attention	0.39**	0.37**	0.78
IOS's positive stimulation	0.51**	0.43**	0.21
IOS's social comparison	0.39**	0.35**	0.58

Notes: IOS= Interpersonal Orientation scale; \* $p < 0.05$ . \*\* $p < 0.01$ .

The results indicate that there is a positive and significant relationship between growth orientation and deficit reduction orientation and interpersonal orientation and all coefficients are significant at  $P < 0.01$ . Other results showed that there are non-

significant differences between correlation coefficients ( $P > 0.05$ ). The correlation of belongingness orientation with the age was examined to assess criterion validity. The results of Pearson correlation showed that there was no

significant relationship between age and belongingness orientation ( $P>0.05$ ). Intergroup differences were analyzed in terms of gender and students' marital status using multivariate analysis of variance. The assumptions of normal distribution ( $P>0.05$ ), homogeneity variance-covariance matrix ( $P>0.05$ ) and Bartlett's test of

Sphericity ( $P<0.01$ ) were met. Multivariate tests for gender were significant (Wilks' Lambda= 0.98,  $F= 3.65$ ,  $P<0.05$ ) and for marital status were non-significant (Wilks' Lambda= 0.99,  $F= 0.33$ ,  $P>0.05$ ). Results of Univariate analysis are presented in Table 3.

**Table 3. MANOVA results for Growth and Deficit-Reduction Orientations based on gender and marital statuses**

BOS subscales	descriptive statistics	gender			marital statuses		
		Female	Male	F	Single	Married	F
Growth orientation	Mean	17.85	16.67	7.29**	17.30	17.13	1.11
	Standard Deviation	3.66	3.82		3.07	4.14	
Deficit-reduction orientation	Mean	16.46	16.22	0.28	16.27	16.65	6.41
	Standard Deviation	3.99	3.75		3.79	3.78	

Table 3 show that there is only a significant difference in growth orientation based on gender ( $F=7.29$ ,  $P<0.01$ ) and women have a higher mean. Finally, the results of the internal consistency and reliability showed that there is a positive and significant correlation ( $r=0.27$ ) between growth orientation and deficit reduction orientation. Cronbach's alpha coefficients are 0.79 for two subscales and split-half coefficients are 0.70 for growth orientation and 0.74 for deficit reduction orientation. This results indicated a good reliability for BOS.

## Discussion

The purpose of this study was to investigate the construct validity of Persian version of belongingness orientation scale (Lavigne et al., 2011) in Iranian students. Examining the factor structure by confirmatory factor analysis shows that the scale has a two-factor structure. This finding is consistent with the findings of Lavigne et al. (2011).

The results of convergent validity of scale show that there are positive and significant relationship between growth orientation and deficit reduction orientation and interpersonal orientation subscales. This finding is consistent with the results of Lavigne et al. (2011) and Leary et al. (2013). Leary et al. (2013) showed that there is a positive and significant relationship between emotional support,

attention, positive stimulation and social comparison and belongingness orientation. Hill (1987) proposed an interpersonal orientation as a structure for studying affiliation motivation, meaning that people tend to develop lasting and positive relationships with others; but their orientations are different. This is consistent with belongingness orientation proposed by Lavigne et al. (2011).

The assessment of criterion validity showed that there was no significant relationship between belongingness orientation and age. There was also no significant difference in items of marital status. Differences in terms of gender were significant only in growth orientation and females had higher mean. Spehar et al. (2016) found no significant relationship between age, gender and educational level and belongingness; however, Adamczyk (2018) found a significant difference among females and males, so that females had a higher mean. Given that the current research sample consisted of undergraduate students, most of whom were in the third decade of their life, the necessary dispersion of age distribution did not exist to examine the more accurate relationship between this variable and belongingness and it seems that performing the research on different age groups would lead to different results. This seems to be true about marital status as well, since, first, a small percentage of students were married (17.8%), and

second, given the less age dispersion, most of them were newlywed. It is likely that different results can be obtained if people with different marriage durations are examined. Gender differences in growth orientation and higher scores of females can be interpreted in line with gender differences in psychological and social dimensions. The growth orientation refers to the desire to develop relationships with others based on inherent interest in them. This tendency seems to be stronger in females than in males.

Results show that there is a good internal consistency between growth orientation and deficit reduction orientation. This finding is consistent with the findings of Lavigne et al. (2011). They also achieved a significant correlation between subscales. The Cronbach's alpha coefficients and split-half coefficients had also an optimal level. Accordingly, the reliability of BOS is evaluated as good.

In total, it seems that BOS is an instrument that with 10 items and a two-factor structure has factor and convergent validity. According to the findings of the present study, the use of this scale among females and males ranging from 18 to 30 years of age has a good reliability. But it seems that the scale should be used with caution, because like other studies, the present study had some limitations such as (1) the study was carried out in a specific cultural and social context, and (2) the sample size was small. These limitations restrict the generalization of results to other groups and social and cultural contexts. It is suggested that future researchers investigate divergent validity in terms of related psychological variables.

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